Name \_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_

Mr. Schlansky Geometry

***Right Triangles Word Problems (No Pictures!)***

1. In triangle *MCT*, the measure of , , , and . Which ratio represents the sine of ?



|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

2. A right triangle contains a 38° angle whose adjacent side measures 10 centimeters. What is the length of the hypotenuse, to the *nearest hundredth of a centimeter*?

3. An equilateral triangle has sides of length 20. To the *nearest tenth*, what is the height of the equilateral triangle?

4. In right triangle *ABC*, , , , and . Find, to the *nearest degree*, the measure of .



5. In , . If and , which statement is *not* true?



1) 3)



2) 4)



6. A 28-foot ladder is leaning against a house. The bottom of the ladder is 6 feet from the base of the house. Find the measure of the angle formed by the ladder and the ground, to the *nearest degree*.

7. A 20-foot support post leans against a wall, making a 70° angle with the ground. To the *nearest tenth of a foot*, how far up the wall will the support post reach?

|  |  |
| --- | --- |
| 1) | 6.8 |
| 2) | 6.9 |
| 3) | 18.7 |
| 4) | 18.8 |

8. A man standing on level ground is 1000 feet away from the base of a 350-foot-tall building. Find, to the *nearest degree*, the measure of the angle of elevation to the top of the building from the point on the ground where the man is standing.

9. A ladder leans against a building. The top of the ladder touches the building 10 feet above the ground. The foot of the ladder is 4 feet from the building. Find, to the *nearest degree*, the angle that the ladder makes with the level ground.

10. In , the measure of , , and . Which ratio represents the tangent of ?



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| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

11. In right triangle *EFD*, , , and . What is the measure of angle *E*, to the *nearest degree*?



12. In right triangle *ABC* shown below, inches, inches, and . Find the number of degrees in the measure of angle *BAC*, to the *nearest degree*.



Find the length of to the *nearest inch*.

